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Christopher M. Look

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER

LEUNG, WAI LUN

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/785,618	Applicant(s) LOOK, CHRISTOPHER M.	
	Examiner DANNY W. LEUNG	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Furthermore, the key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.* note that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting *In re Kahn* 441 F.3d977,988,78 USPQ2d1329,1336(Fed.Cir.2006) stated that “[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”

2. Claims 1, 2, 4, 6, 7, 9, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuroyanagi et al.** (*US006433900B1*), in view of **Ikeda et al.** (*US007242860B2*).

Regarding claims 1 and 9, **Kuroyanagi** discloses a method comprising:

splitting an incoming optical signal into a first and a second optical signals (*fig 8A, optical distributor 60 splits incoming signal to a 0-system and a 1-system*);

sending the first and the second optical signals to a first and a second equipments in an optical network node (*col 10, ln 60-col 11, ln 25*), respectively, the second equipment being a protection module for the first equipment (*col 11, ln 15-25*);

monitoring a first and a second outgoing optical signals from the first and second equipments (*fig 8A, monitor circuit*);

outputting only one of the first and the second outgoing optical signals from the optical network node via a switch (*fig 8A, optical selector selects signals from either 0-system or 1 system*);

declaring a failure of the optical network node if only one of the first and the second outgoing optical signals has failed (*col 11, ln 36-42*).

Kuroyanagi does not disclose expressly maintaining a state of the switch to continue outputting the only one of the first and the second outgoing optical signals if both of the first and the second outgoing optical signals have failed, or such method is performed by a machine-accessible medium that stores instructions.

Ikeda, from the same field of endeavor, teaches a machine-accessible medium (*fig 1, memory*) that stores instructions which, if executed by a processor (*fig 1, controller*), will cause the processor to perform operations comprising: sending a first and a second optical signals to a first and a second equipments in an optical network node (*fig 2, working and protection receiver*), respectively, the second equipment being a protection module for the first equipment (*col 4, ln 8-16*); monitoring a first and a second outgoing optical signals from the first and second

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equipment (*col 7, ln 33-45*); and maintaining a state of the switch to continue outputting the only one of the first and the second outgoing optical signals if both of the first and the second outgoing optical signals have failed. (*col 7, ln 59-col 8, ln 29*) . Therefore, it would have been obvious for a person of ordinary skill in the art at the time when the invention was made to recognize the known improvement technique such as that of **Ikeda's** could have applied in the same way to **Kuroyanagi's** base device and the results of accurately identify failed components would have been predictable to one of ordinary skill in the art. Therefore, the rationale of use of known technique (**Ikeda's**) to improve similar methods (**Kuroyanagi's**) in the same way has been clearly articulated herein with the *Graham* inquiries and findings as presented above.

As to claims 2 and 10, **Kuroyanagi** further teaches bypassing the first optical equipment if the first optical signal has failed and the second optical signal has not failed; and bypassing the second optical equipment if the second optical signal has failed and the first optical signal has not failed (*col 8, ln 66-col 9, ln 22*).

As to claims 4 and 12, **Ikeda** further teaches the method comprising declaring a failure has occurred outside of the optical network node if both the first and second optical signals have failed (*col 7, ln 66-col 8, ln 19*).

As to claim 6, **Kuroyanagi** further teaches wherein each of the first and second equipments comprises a wavelength switch module (*fig 8A, optical XC node in 1-system and 0-system*).

As to claim 7, **Kuroyanagi** further teaches wherein each of the first and second equipments further comprises a multiplexer and a de-multiplexer (*fig 8A*). (*fig 4*),

Regarding claims 13 and 19, **Kuroyanagi** discloses an apparatus comprising: a first optical equipment in an optical network device having a first plurality of input ports and a first plurality of output ports (*fig 13, 0-system on top, having input ports on left and output ports on right*) ; a second optical equipment in the optical network device having a second plurality of input ports and a second plurality of output ports, the second optical equipment being a protection module of the first optical equipment (*fig 13, 1-system with input ports on left and output port on right*); a plurality of optical signal splitters (*fig 13, optical distributor 110*), each of the plurality of optical signal splitters coupled to one of the first plurality of input ports and one of the second plurality of input ports, to split an incoming optical signal into a first and a second optical signals and to input to the first and the second optical equipments, respectively (*col 15, ln 32-65*) ; and a plurality of optical signal switches, each of the plurality of the optical signal switches coupled to one of the first plurality of output ports and one of the second plurality of output ports, to select a first output optical signal from the first optical equipment (*fig 13, protection switch 113*), wherein a respective optical signal switch switches to select a second output optical signal from the second optical equipment if the first output optical signal fails and the second output optical signal has not failed (*col 15, ln 40-65*), and wherein the plurality of optical signal switches are switched together substantially simultaneously (*col 15, ln 58-col 16, ln 4*). **Kuroyanagi** does not disclose expressly the respective optical signal switch remains unchanged if both the first output optical signal and the second output optical signal fail.

Ikeda, from the same field of endeavor, teaches a system (*fig 12*) comprising: a plurality of optical fibers (*fig 12, as shown in dotted and solid lines*) ; and a plurality of optical nodes coupled to each other via the plurality of optical fibers (*fig 12 shows 2 nodes connected with*

fibers), each of the plurality of optical nodes comprising: a first optical equipment in an optical network device and a second optical equipment in the optical network device, wherein a respective optical signal switch switches to select a second output optical signal from the second optical equipment if the first output optical signal fails and the second output optical signal has not failed (*col 8, ln 22-29*), and the respective optical signal switch remains unchanged to continue selecting the first output optical signal if both the first output optical signal and the second output optical signal fail wherein the plurality of optical signal switches are switched together substantially simultaneously (*col 7, ln 59-col 8, ln 2*). Therefore, it would have been obvious for a person of ordinary skill in the art at the time when the invention was made to recognize the known improvement technique such as that of **Ikeda's** could have applied in the same way to **Kuroyanagi's** base device and the results of accurately identify failed components would have been predictable to one of ordinary skill in the art. Therefore, the rationale of use of known technique (**Ikeda's**) to improve similar methods (**Kuroyanagi's**) in the same way has been clearly articulated herein with the *Graham* inquiries and findings as presented above.

As to claims 14, 15, 20, and 21, **Kuroyanagi** further teaches wherein the optical signal switch selects the second output optical signal from the second optical equipment if the first output optical signal from the first optical equipment fails and the second output optical signal from the second optical equipment has not failed (*col 15, ln 40-65*), and it would have been obvious to selects the first output optical signal from the first optical equipment if the second output optical signal from the second optical equipment fails and the first output optical signal from the first optical equipment has not failed, *since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ70.*

As to claims 16 and 22, **Kuroyanagi** further teaches wherein each of the first and the second optical equipment includes a wavelength switch module (*fig 15, protection switch 133*).

As to claims 17 and 23, **Kuroyanagi** further teaches wherein each of the first and the second optical equipment includes a multiplexer and a demultiplexer (*fig 15*).

3. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuroyanagi et al.** (*US006433900B1*), in view of **Ikeda et al.** (*US006771908B2*), as applied to claims 2 and 10 above, and further in view of **Gerstel et al.** (*US006898376B1*).

Regarding claims 3 and 11, **the combination of Kuroyanagi and Ikeda** discloses the method in accordance to claims 2 and 10 as discussed above. **It** does not disclose expressly comprising sending an alarm if either the first or the second optical signal has failed. **Gerstel**, from the same field of endeavor, teaches a method comprising: splitting an incoming optical signal into a first and a second optical signals (*col 2, ln 65-col 3, ln 3*); sending the first and the second optical signals to a first and a second equipments in an optical network node respectively (*equipments 60 and 78 in node 51, fig 2a*); and monitoring a first and a second outgoing optical signals from the first and second equipments (*processor 62 monitor signal T1, col 3, ln 23-45; processor 80 monitors signal T2, col 3, ln 64-col 4, ln 15*), and sending an alarm if either the first or the second optical signal has failed (*col 3, ln 22-25; col 3, ln 65-66*). Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to send an alarm if either the first or the second optical signal has failed in **the combination of Kuroyanagi and Ikeda's** system as suggested by **Gerstel**. The motivation for doing so would have been to notify other nodes where the fault is located.

Furthermore, it would have been obvious for a person of ordinary skill in the art at the time of invention to recognize that applying a known technique such as that of **Gerstel's** onto **the combination of Kuroyanagi and Ikeda's** base system upon which the claimed invention can be seen as an "improvement" would have yielded predictable results and resulted in an improvement system, since **Gerstel's** teaching is capable of enhancing performance of fault location.

Therefore, the rationale of applying a known technique (**Gerstel's**) to a known system (**the combination of Kuroyanagi and Ikeda's**) ready for improvement to yield predictable results has been clearly articulated herein with the *Graham* inquiries and findings as presented above. In *Dann v. Johnston* 525 U.S. 219, 189 USPQ257 (1976) The Court held that "[t]he gap between the prior art and respondent's system is simply not so great as to render the system nonobvious to one reasonable skilled in the art."

4. Claims 5, 8, 18 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuroyanagi et al.** (US006433900B1), in view of **Ikeda et al.** (US006771908B2), as applied to *claims 1 and 9 above, and further in view of Feinberg et al.* (US006556319B2)

Regarding claims 5, 8, 18, and 24, **the combination of Kuroyanagi and Ikeda** discloses the method in accordance to claims 1, 7, 17, and 23 as discussed above. **It** does not disclose expressly comprising amplifying the first and the second optical signals at the first and second equipments, respectively. **Feinberg**, from the same field of endeavor, teaches a machine-accessible medium that stores instruction which, if executed by a processor (520, *fig 5*), will cause the processor to perform a method comprising: splitting an incoming optical signal into a

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first and a second optical signals (*splitter 160, splitting customer data in, fig 1b*); sending the first and the second optical signals to a first and a second equipments in an optical network node, respectively (*108A and 108B in node on the right, fig 1b*), the second equipment being a protection module for the first equipment (*col 3, ln 63-col 4, ln 7*); monitoring an outgoing optical signal (*photodiode 515 monitors outgoing optical signal from the switch 510, which relay signals from either the service path or the protection path, fig 5*) and declaring a failure of the optical network node if only one of the first and the second outgoing optical signals has failed (*col 8, ln 37-43*), and further comprising amplifying the first and the second optical signals at the first and second equipments, respectively (*col 8, ln 48-52*). Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to amplify the first and the second optical signal at the first and second equipments respectively onto **the combination of Kuroyanagi and Ikeda's** system as suggested by **Feinberg**. The motivation for doing so would have been to compensate for any anticipated signal attenuation over transmission loss.

Furthermore, it would have been obvious for a person of ordinary skill in the art at the time of invention to recognized that applying a known technique such as that of **Feinberg's** onto **the combination of Kuroyanagi and Ikeda's** base system upon which the claimed invention can be seen as an "improvement" would have yielded predictable results and resulted in an improvement system, since **Feinberg's** teaching is capable of enhancing performance of optical signal transmission strength.

Response to Arguments

5. Applicant's arguments with respect to claims 1-24 have been considered but are not persuasive.

6. Applicant stated in the response that the claim language “maintaining a state of the switch to continue outputting the only one of the first and the second outgoing optical signals if both of the first and the second outgoing optical signals have failed.” describes a situation in which the first and the second outgoing optical signals are corrupted signal, but not a non-existent signal. Therefore, the claim language would be interpreted as such, and the 112 rejections are hereby withdrawn.

7. Applicant stated that Ikeda fails to teach the limitation of “maintaining a state of the switch to continue outputting the only one of the first and the second outgoing optical signals if both of the first and the second outgoing optical signals have failed.” Examiner disagree. While the claim language does not specify what is meant by “maintaining a state of the switch”, which could be interpreted as the switch is in a “working state” where the switch itself is in operational status; Ikeda does not describe the state of the switch being changed, and figure 12 clearly illustrates that the switches are working and continuously outputting only one of the first and the second outgoing optical signals.

Conclusion

8. The prior art made of record in previous actions and not relied upon is considered pertinent to applicant's disclosure.
9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANNY W. LEUNG whose telephone number is (571)272-5504. The examiner can normally be reached on 11:30am-9:00pm Mon-Thur.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DANNY W LEUNG
Examiner
Art Unit 2613

/D. W. L./
Examiner, Art Unit 2613
July 24, 2008

/Jason Chan/
Supervisory Patent Examiner, Art Unit 2613

<div>Application Number</div> <div></div>	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/785,618	LOOK, CHRISTOPHER M.	
	Examiner	Art Unit	
	DANNY W. LEUNG	2613	